

November 2004

**Lexington Fayette Urban  
County Government  
Police and Firefighters' Pension Plan  
Valuation as of July 1, 2004**

**MERCER**

Human Resource Consulting

LEXINGTON FAYETTE URBAN COUNTY GOVERNMENT  
POLICE AND FIREFIGHTERS' PENSION FUND  
VALUATION AS OF JULY 1, 2004

Section 1 - Introduction

At the request of the Board of Trustees, Mercer Human Resource Consulting has undertaken a valuation of the Lexington Fayette Urban County Government Pension Plan for Police and Firefighters' as of July 1, 2004. This Plan has been adopted pursuant to KRS 67A.360 to KRS 67A.690. KRS 67A.560(6) requires a valuation of this Plan at least once every two years. The most recent valuation was completed as of July 1, 2002.

Included in this report is a brief summary of the plan's provisions, an explanation of the actuarial assumptions used, an analysis of the results of the valuation and several tables showing detailed information with regard to the valuation of the plan and status of participants under the plan.

Section 2 - Summary of Plan Provisions

(a) Retirement Date

Anytime after completion of 20 years of service (including service purchased of up to 4 years).

(b) Retirement Income

2-1/2% of average salary times years of service (average salary is the highest average salary of the member for any three consecutive years of service.) Effective July 1, 2001, minimum annuity payable to any retiree or surviving spouse increased to \$1,000.00 per month. The board shall increase this amount as provided by KRS 67A.690(1).

(c) Vesting

Rights in a service retirement annuity vest upon completion of 20 years of service.

(d) Occupational Death Benefits

Widow is entitled to immediate income equal to 60% of the member's last rate of pay regardless of the length of the employee's service. This income ceases at the widow's death or remarriage. In addition, 10% of the member's salary is payable to the widow for each minor child until each child attains age 18 (age 23 if involved in educational activities).

If no widow survives or if she remarries, then minor children will receive a benefit based on the following schedule:

One minor child	- 50% of salary
Two minor children	- 65% of salary
Three or more minor children	- 75% of salary

Maximum total payment to the widow and minor children is 75% of the member's salary.

If neither a widow nor minor children survive the member, then each dependent parent is entitled to 25% of the member's salary.

(e) Non-Occupational Death Benefits

If a member dies after completing at least five years of service, the surviving spouse is entitled to 1-1/2% of the member's average salary times years of service (minimum of 15%), subject to the following provisions:

- 1) The widow and member had been married at least six months prior to the member's death.
- 2) The widow's income ceases upon remarriage.
- 3) Widow's income is increased by 1/2 for the first minor child and by 1/4 for each additional child. Maximum total income to widow and minor children is 75% of average salary.
- 4) If no widow survives or if she remarries, then minor children will receive a benefit based on the following schedule:

One minor child	- 50% of salary
Two minor children	- 65% of salary
Three or more minor children	- 75% of salary

Maximum total payment is 75% of the member's salary.

Upon the death of a retired member whose marriage was in effect at least six months before retirement or one year prior to death, the surviving spouse shall receive an annuity of 60% of the member's final annuity or final rate of pay, whichever is greater, unless the retired member had elected an alternate actuarial equivalent form at time of retirement of either a joint and 75% or a joint and 100% survivor payment form.

(f) Occupational Disability Benefits

For disabling injuries occurring after July 15, 1994, the member receives income equal to a minimum of 60% of his final rate of pay. The percentage amount shall be increased above the 60% minimum by 1/2 of the amount by which the member's percentage of disability exceeds 20%, but in no event to exceed a total of 75%. The member's percentage of disability shall be the average of the impairment rating determined by two physicians selected by the Board using the American Medical Association "Guide to the Evaluation of Permanent Impairment". Upon his death, his survivors receive benefits under the occupational death benefit provision. If the member is eligible for a service retirement annuity and the amount of the service retirement annuity exceeds the amount of the disability benefit, then the member may elect to receive an additional service retirement annuity equal to this difference.

For disabling injuries occurring prior to July 15, 1994, the member receives income equal to a minimum of 75% of the final rate of pay.

(g) Non-Occupational Disability Benefits

If a member becomes disabled after completing at least five years of service, then he is entitled to a disability income equal to 2-1/2% of average salary times years of service subject to a minimum payment of 25% of average salary and a maximum payment of 75% of average salary. Benefits payable to the member's surviving spouse upon the member's death shall be as determined under KRS 67A.450 and KRS 67A.492.

(h) Employee Contributions

Each active member contributes 11% of current salary.

(i) Employer Contribution

The government shall make current contributions to the fund on an actuarially funded basis. Such contribution shall be equal to the sum of:

- (1) An annual amount resulting from the application of a rate percent of salaries of active members determined under the entry age normal cost funding method (fixed by the board every two years), and
- (2) An amount resulting from the application of a rate percent of salaries of active members which will provide each year regular interest on any remaining liability for prior service.

In any event, the total contribution of the government shall be at least 17% of salaries of active members participating in the fund.

The current amount of contribution by the government is 21% of salaries (effective July 1, 2004).

(j) Post-Retirement Cost-Of-Living Increase

Under the terms of the current statute, each retired member who has been retired for at least one year and who is at least age 47, will have his pension increased each year by an amount, to be determined by the board, of not less than 2% nor more than 5%, compounded annually, this increase shall also apply to beneficiaries of deceased members. Notwithstanding, any disabled member, or beneficiaries or dependents of such a member, shall receive an increase of 2% of the original annuity each year up to the time the retiree attains, or would have attained, age 47 and has been retired for one year. This increase shall be compounded.

Although the statute has not yet been amended to eliminate age 47 as the starting age for COLA's, operationally COLA increases are being given to all retirees and beneficiaries under the plan regardless of age. This is consistent with the elimination of the age 46 requirement to retire which was the original basis for the age 47 starting age for the COLA. Since age 46 is no longer required to retire, it is reasonable that COLA increases would also no longer be limited by an age requirement.

(k) Refund Of Employee Contributions

Upon termination, a member may receive a refund of his accumulated contributions to the Fund, without interest.

### Section 3 - Actuarial Assumptions

The ultimate cost of any retirement system will be the amount of benefits paid out over the years, plus the expense of administration, minus the investment return of the fund. Under a formal retirement program, it is necessary to set aside funds in advance to provide for the benefits as they come due in order to avoid continual rapidly increasing pension costs. In addition to providing a much stronger financial basis for the fund, this advance funding also permits a sounder method of accounting, since the cost for any particular individual is spread over his active working lifetime rather than over his retirement years, when he is rendering no services to Urban County Government. Unfortunately for simplicity purposes, the need for advance funding also introduces many complications in attempting to determine the amount of funds that should be set aside annually to provide protection for future retirees and their beneficiaries. In fact, it is just as impossible to determine with certainty the annual cost of a retirement plan as it is to state definitely the total payroll of a group twenty years in the future. Thus, an actuarial valuation is, at best, an estimate based upon the experience of the actuary with the use of sophisticated mathematical tools.

In order to estimate annual pension costs, it is necessary to make judgments with regard to a number of future occurrences. These "actuarial assumptions" are used in conjunction with all of the data on pensioners, beneficiaries and active members to project the level of future benefit payments.

The following estimates must be made:

- 1) The expected rate of earnings on any monies set aside under the fund.
- 2) The approximate number of years that a retired employee will live after retirement.
- 3) The number of deaths, disabilities and withdrawals that will take place from the present working force.
- 4) The salary level of individuals 10, 20, 30 or more years in the future.
- 5) The approximate ages at which individuals will retire, and whether these retirements will be for disability or service.
- 6) The approximate number of employees married at retirement, and how many will be survived by a spouse.
- 7) The percentage of deaths and disabilities due to occupational causes.

Each of these assumptions is necessary if the ultimate costs of the plan are to be accurately determined and spread in an equitable manner in an advance funding scheme. Additional assumptions that are frequently ramifications of the ones indicated above must also be made. Obviously, no individual or group of individuals will be able to accurately estimate any one or all of these trends, so that the assumptions and funding methods used to prefund the plan are, at best, estimates as to future experience. For a plan covering thousands of employees rather elaborate experience studies are generally undertaken to be certain that the estimates are the best possible. For a plan the size of the Lexington Fayette Urban County Government Police and Firefighters' Pension Fund, the results of any such elaborate study would be of questionable statistical validity, so only a general examination is usually made. This was the procedure followed with regard to setting actuarial assumptions for this valuation. This analysis of recent plan experience resulted in several changes in actuarial assumptions effective in this valuation.

The following paragraphs discuss each of the assumptions independently:

(a) Rate of Return

The actuarial assumption that is probably most readily understood and most discussed is that of the assumed earnings rate for the fund. The higher the actual rate of return for the fund, the lower will be the ultimate level of contributions by the Urban County Government.

Valuations since 1986 have utilized an 8% assumption. This rate was chosen in 1986 after a review of investment experience. This assumption still is reasonable in view of current fund investments and target asset mix. As a result, we have continued to use the 8% assumption in this valuation. This rate should be continually monitored to assure that it remains reasonable based on target asset mix for the fund compiled with market return projections. Under our current portfolio return model, the 8% assumption falls just under the 60th percentile expected return. Further declines in expected return levels in future years would necessitate a decrease in this assumed rate.

Although, we have assumed that the fund will earn at the rate of 8% annually, it should be stressed that this 8% is not to be considered a goal for the fund, since the ultimate soundness of the fund depends not upon the actuarial assumption employed, but rather upon the actual earnings and expenses of the fund. Further, meeting this single assumption does not guarantee the accuracy of our results as experience in aggregate will determine this.

(b) Mortality

One of the most difficult assumptions is that of anticipated mortality under the system. Because of the relatively few people covered by the plan, it is impossible to obtain with any degree of statistical certainty an indication of the actual developing mortality experience. This assumption has been updated this valuation to use the UP 1994 Mortality Table projected to 2002 (separate for male and female lives). As in prior valuations, before retirement these rates were set forward three years to reflect the greater mortality risk for police and firefighters in general.

The number of expected deaths per 1,000 active male employees at sample ages is indicated below:

Pre-Retirement			Post-Retirement		
Number of Deaths			Number of Deaths		
Age	Prior Assumption	Revised Assumption	Age	Prior Assumption	Revised Assumption
20	0.4	0.6	60	9.2	7.5
30	0.7	0.9	70	27.5	22.6
40	1.7	1.3	80	74.1	61.5
50	5.2	3.3	90	166.3	159.3

For disabled lives, mortality was assumed to be consistent with rates issued by the IRS in Revenue Ruling 96-7 for use in determining current liability for disabled lives occurring prior to January 1, 1995. This is the same assumption as used in the 2002 valuation.

In computing liabilities for occupational vs. non-occupational death benefits, it was assumed that 20% of deaths were due to occupational causes, as has been the assumption used in prior valuations.

(c) Turnover

Because a retirement plan is funded on group basis, and because employees who terminate before completing 20 years of service receive only their own contributions without interest, termination by an employee prior to his retirement results in a gain to the fund, which in turn is indirectly used to fund benefits for the remaining individuals covered under the plan. For this reason, the actual rate of termination can have an important effect on the anticipated cost of the pension system. For example, if a plan were to experience complete turnover every five years, no one would reach retirement age, so that there would be no need to accumulate funds except for limited death and disability benefits. While this is obviously an extreme situation, it may not be generally recognized that the greater the turnover level among employees, the smaller percentage of total payroll generally required in order to provide pensions.

From all indications, turnover has been relatively low for longer service employees, where the potential gain is greatest. Thus, a relatively low termination rate was deemed appropriate. For this reason, we have assumed a termination rate according to Scale T-3 from the Actuary's Pension Handbook. Sample rates for 1,000 employees are shown as follows:

<u>Age</u>	<u>Terminations Annually</u>
20	65.8
30	48.3
40	38.4
50	15.2
60	0.0

This is the same table as used since the 1986 valuation. No change in this assumption was deemed necessary in this valuation.

(d) Salary Increases

The assumption relative to future salary increases was last revised in the 1989 valuation to assume that salary increases over the next 5 years would average 4% per year. Further, in consideration of the long term nature of our benefit projections and historical relationships between salary increase rates and investment return rates, it was further assumed that after the initial 5 year period, salaries would increase at 5% annually until the employee's retirement. This assumption has been retained in this valuation, with the 5 year period of 4% assumed salary increases now having expired, so that a 5% rate was used for all future years. No change in this assumption was deemed needed in this valuation.

(e) Normal Retirement Date

For most private industry plans, normal retirement age is easily established because benefits are actuarially reduced for commencement prior to age 65. Under this Plan full benefits without actuarial reduction are available if a member has completed 20 years of service, so that presumably this could be selected as the normal retirement age. Experience indicates that it is unlikely that most of the employees will actually retire at the first eligible retirement age.

Retirement experience as anticipated to reflect the “20 and out” eligibility now part of the plan has been assumed to be as follows:

<u>Years of Service</u>	<u>Percentage of Remaining Actives Who Retire</u>
20	25.0%
21	10.0%
22	11.1%
23	12.5%
24	14.3%
25	16.7%
26	20.0%
27	25.0%
28	33.3%
29	50.0%
30 (or age 65)	100.0%

This assumption has been revised effective with this valuation.

(f) Disability

Based on a review of disability experience in conjunction with the 1999 valuation, the disability assumption was revised to better reflect plan experience. This assumption has been retained for this valuation.

The disability rate and number of expected disabilities per 1000 employees at sample ages is indicated below:

<u>Age</u>	<u>Disability Rate</u>	<u>Number per 1,000</u>
30	.0140	14
40	.0200	20
50	.0300	30
60	.0300	30

As in recent valuations, it was assumed that 75% of disabilities would be due to occupational causes, and that for occupational disabilities, the average benefit percentage would be 67.5% (implies average impairment rating of 35%).

(g) Pre-Retirement Death Benefit

In order to value the liability for death benefits to employees who die before retirement, it was necessary to make an assumption as the number of employees survived by a spouse, dependent child or parent, and the approximate age of each. It was assumed that 75% of employees who die before retirement would be survived by a spouse and that the husband would be 3 years older than his wife. As mentioned in subsection (b), it was further assumed that 20% of deaths would be deemed due to occupational causes.



(h) Post-Retirement Death Benefit

In valuing the liability for death benefits to employees who die after retirement, actual spouse data was used for members already retired. In valuing the liability for this potential benefit for current active members, it was assumed that 85% would have a spouse at retirement, and that the husband would be 3 years older than his wife.

Section 4 - Funding Methods

(a) Valuation Cost Method

The method of valuation employed is the "entry age normal" cost method. Under this method, an annual service cost is established for each employee. This annual service cost is the level annual percent of pay which should have been contributed each year from the date of a member's employment until his retirement date in order to fully fund his benefits at retirement. The past service liability represents the sum of money which would have been accumulated had these annual service costs been contributed for each year in the past for each employee currently with Urban County Government, and for all retired employees and beneficiaries. The remainder of the liabilities is for future contributions of annual service cost. Because the plan has not always been in existence and because prior contributions have not always been at adequate levels, a portion of the past service liability is unfunded. The amount of this unfunded liability is the difference between the past service liability and the assets in the fund as of July 1, 2004.

It should be understood that the past service liability at any time cannot be finally determined because the plan is based upon final average compensation. Because salaries are changing, and the other actuarial assumptions are not being exactly met, no such exact calculation is possible.

(b) Asset Valuation

Prior to the 1996 report, assets were set at cost value. With the implementation of GASB Statement No. 25 in the 1996 valuation, pension fund assets are now disclosed at fair value as of the reporting date. Accordingly, valuation assets have been set at market value for all purposes in this valuation.

The preliminary (unaudited) balance sheet as of June 30, 2004 including receivables and payables showed a fund balance (less payables) of \$329,683,295. This amount was used for valuation assets.

## Section 5 - Results Of The Valuation

The valuation itself was complicated by the cost of living provision. The cost of living provision under the plan provides for a minimum increase of 2% and a maximum of 5% per year, compounded annually. As a result, we ran the valuation three ways -

1. 2% cost of living, compounded annually
2. 3% cost of living, compounded annually
3. 5% cost of living, compounded annually

The first set of costs shows the minimum end of the funding range if COLA's are kept at minimum levels, while the third set of numbers shows the maximum end of the funding range.

There were changes in the plan provisions since the 2002 valuation that had a material impact on valuation results --- in particular, the elimination of the age 46 requirement in order to retire.

With respect to the payment on the unfunded past service liability, KRS 67A.520(2) specifies that interest on the unfunded past service liability is to be paid each year. This is the basis used in this valuation.

The results of the valuation calculations are summarized below. Table 1 in the Appendix provides details of the calculations.

	<u>2% Cost of Living</u>	<u>3% Cost of Living</u>	<u>5% Cost of Living</u>
2004 Valuation Results			
• Employer Contribution	\$12,365,811	\$17,048,783	\$29,627,364
• As % of Payroll	30.7%	42.3%	73.5%
2002 Valuation Results			
• Employer Contribution	\$10,432,283	\$14,314,388	\$24,664,357
• As % of Payroll	25.3%	34.7%	59.7%
2000 Valuation Results			
• Employer Contribution	\$8,493,627	\$12,078,971	\$21,670,991
• As % of Payroll	21.6%	30.8%	55.2%
1999 Valuation Results			
• Employer Contribution	\$6,896,827	\$9,895,934	\$17,799,135
• As % of Payroll	18.6%	26.7%	48.1%

## Section 6 - Analysis of Valuation Results

The funding level developed in this valuation has increased as a percentage of payroll from the 2002 level at all COLA levels. This is attributable to (1) the plan change eliminating the age 46 requirement to retire, (2) fluctuations in plan experience from valuation assumptions, (3) the relationship's of actual employer contributions to recommended amounts, and (4) the magnitude of retiree COLA's.

The table below shows the extent to which plan assets cover the liability for inactive members. This funded position is down from the 2002 valuation under all 3 different COLA levels.

	Coverage of Inactive Liability by Current Assets					
	2004 Valuation	2002 Valuation	2000 Valuation	1999 Valuation	1997 Valuation	1996 Valuation
Future COLA's of 2%	110%	115%	133%	149%	134%	120%
Future COLA's of 3%	99%	104%	120%	137%	122%	110%
Future COLA's of 5%	79%	84%	97%	113%	100%	90%

The funded ratio for total accrued liability (for both active and inactive participants) is summarized below:

	Coverage of Total Accrued Liability by Current Assets					
	2004 Valuation	2002 Valuation	2000 Valuation	1999 Valuation	1997 Valuation	1996 Valuation
Future COLA's of 2%	78%	81%	86%	92%	85%	78%
Future COLA's of 3%	71%	73%	78%	84%	78%	71%
Future COLA's of 5%	56%	58%	62%	68%	63%	58%

Most of this decline in funded position since 2002 can be attributed to the plan change in retirement eligibility. Temporary fluctuations in the plan's funded position can occur due to deviations in experience from assumed, but over time there should be a trend towards improvement in the plan's funded position.

The amount of any COLA should be supported by the funded position of the plan. In light of the funding levels developed in this valuation and the decline in funded position, it is our recommendation that COLA increases be limited to the 2% minimum level until such time as the funded position improved and actual funding is more in line with valuation funding levels.

## Section 7 - Actuarial Certification

The information and valuation results shown in this report are, to the best of my knowledge, complete and accurate and are based upon:

1. Employee census data as of July 1, 2004 submitted by Lexington Fayette Urban County Government. This data was not audited by us, but appears to be sufficient and reliable for purposes of the report.
2. Financial data as of June 30, 2004, submitted by Lexington Fayette Urban County Government. This data was not audited by us, but appears to be sufficient and reliable for purposes of the report.
3. Actuarial assumptions as established by the Board, and which in the aggregate, appear to be reasonably related to the experience of the plan and to reasonable expectations, and which represent a reasonable estimate of anticipated experience under the plan.
4. Actuarial methods as stated in the report and my interpretation of plan provisions as summarized in the report.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

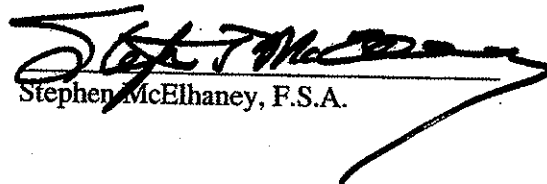
Certified by:

  
Stephen A. Gagel, F.S.A.

11/18/2004

Date

Peer Reviewed by:

  
Stephen McElhaney, F.S.A.

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## SECTION 8 - APPENDIX

TABLE 1

## 7/1/2004 VALUATION CALCULATIONS OF CURRENT PLAN

	2% Cost of Living Increase	3% Cost of Living Increase	5% Cost of Living Increase
1. Present Value of Benefits			
- Active Employees			
a. Retirement Benefits	133,501,828	150,032,429	194,708,275
b. Disability Benefits	53,850,033	60,991,553	81,061,186
c. Return of Employee Contributions	7,345,607	7,345,607	7,345,607
d. Vesting Benefits	0	0	0
e. Pre-Retirement Survivor Benefits	2,231,099	2,527,736	3,354,956
f. Total-Active Employees	196,928,567	220,897,325	286,470,024
2. Present Value of Benefits			
- Inactive Employees			
a. Retirees' Benefits & Contingent Survivor Benefits	286,474,258	317,248,884	397,881,558
b. Current Beneficiaries' Benefits	14,383,714	15,610,919	18,715,878
c. Vested Terminations	0	0	0
d. Total-Inactive Employees	300,857,972	332,859,803	416,597,436
3. Total Present Value of Benefits (1f)+(2d)	497,786,539	553,757,128	703,067,460
4. Present Value of Future Annual Service Costs			
a. City	42,930,459	52,424,318	79,271,496
b. Employee	33,947,237	33,947,237	33,947,237
c. Total	76,877,696	86,371,555	113,218,733
5. Accrued Liabilities (3)-(4c)	420,908,843	467,385,573	589,848,727
6. Valuation Assets (Market Value)	329,683,295	329,683,295	329,683,295
7. Unfunded Past Service Liability (5)-(6)	91,225,548	137,702,278	260,165,432
8. Present Value of Future Salaries	308,611,241	308,611,241	308,611,241
9. Annual Service Cost Accrual Rate (City Portion) (4a)/(8)	13.9109%	16.9872%	25.6865%
10. Annual Payroll for Pension Purposes	40,316,319	40,316,319	40,316,319
11. City Portion of Annual Service Cost (9)x(10)	5,608,363	6,848,614	10,355,851
12. Interest on Unfunded Past Service Liability	6,757,448	10,200,169	19,271,513
13. Total Minimum City Cost (11)+(12)	12,365,811	17,048,783	29,627,364
14. Total Minimum City Cost as Percentage of Pension Payroll (13)/(10)	30.7%	42.3%	73.5%

Note: Annual required contribution for GASB 27 purposes reflects 40 year amortization of unfunded past service liability under 2% COLA. This amount is \$12,691,844.

**TABLE 2**  
**ACTIVE MEMBERS**

Age Group	Number of Employees	Total Annual Earnings	Average Annual Earnings per Employee
Under 25	14	\$ 434,790	\$ 31,056
25-29	147	4,636,400	31,540
30-34	250	8,371,770	33,487
35-39	205	8,168,861	39,848
40-44	170	8,161,040	48,006
45-49	97	5,483,527	56,531
50-54	40	2,526,500	63,163
55-59	7	380,218	54,317
60-64	3	233,576	77,859
65 & Over	0	0	N/A
Total	933	\$ 38,396,682	\$ 41,154

**COMPARISON TO PRIOR VALUATIONS**

	2004	2002	2000	1999	1997	1996
Average Age	36.69	36.26	36.55	36.77	36.98	36.84
Average Service	9.73	9.73	10.27	10.61	10.85	10.98
Number of Members	933	959	909	870	835	807
Average Monthly Salary	\$3,430	\$3,423	\$3,428	\$3,377	\$2,919	\$2,843

**TABLE 3**  
**INACTIVE MEMEBERS**

	2004	2002	2000	1999	1997	1996
Number of Retirees and Beneficiaries	796	720	662	636	581	563
Total Monthly Pensions in Pay Status	\$2,047,040	\$1,725,974	\$1,399,887	\$1,310,341	\$1,115,896	\$1,043,610
Number of Vested Terminations	0	0	0	0	0	1



**TABLE 4**  
**Schedule of Funding Progress For GASB Statement No. 25**

Assumed Future Cost-of-Living Increases of 2% per Year						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
7/1/2004	329,683,295	420,908,843	91,225,548	78.3%	40,316,319	226.3%
7/1/2003 *	288,541,052	393,568,673	105,027,621	73.3%	40,622,159	258.5%
7/1/2002	292,510,573	361,962,848	69,452,275	80.8%	41,309,602	168.1%
7/1/2001 *	294,632,299	340,954,000	46,321,701	86.4%	41,017,120	112.9%
7/1/2000	275,380,829	319,916,080	44,535,251	86.1%	39,260,250	113.4%
7/1/1999	274,004,727	299,060,483	25,055,756	91.6%	37,020,940	67.7%
7/1/1998 *	251,105,049	267,530,178	16,425,129	93.9%	34,837,475	47.1%
7/1/1997	215,244,180	252,013,407	36,769,227	85.4%	31,583,852	116.4%
7/1/1996	181,309,285	233,549,458	52,240,173	77.6%	28,904,134	180.7%
7/1/1995	144,713,360	215,910,330	71,196,970	67.0%	27,286,874	260.9%
11/1/1993	132,616,127	176,983,865	44,367,738	74.9%	23,978,172	185.0%
7/1/1991	99,258,648	148,882,717	49,624,069	66.7%	23,147,890	214.4%
7/1/1989	80,339,694	125,198,588	44,858,894	64.2%	21,144,864	212.2%
1/1/1986	48,996,039	79,195,267	30,199,228	61.9%	17,923,414	168.5%
6/1/1982	23,512,515	67,352,076	43,839,561	34.9%	12,317,867	355.9%
1/1/1978	10,746,039	39,117,251	28,371,212	27.5%	10,048,229	282.4%

Assumed Future Cost-of-Living Increases of 3% per Year						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
7/1/2004	329,683,295	467,385,573	137,702,278	70.5%	40,316,319	341.6%
7/1/2003 *	288,541,052	436,508,177	147,967,125	66.1%	40,622,159	364.3%
7/1/2002	292,510,573	400,184,454	107,673,881	73.1%	41,309,602	260.7%
7/1/2001 *	294,632,299	379,910,000	85,277,701	77.6%	41,017,120	207.9%
7/1/2000	275,380,829	354,463,673	79,082,844	77.7%	39,260,250	201.4%
7/1/1999	274,004,727	327,753,558	53,748,831	83.6%	37,020,940	145.2%
7/1/1998 *	251,105,049	294,527,375	43,422,326	85.3%	34,837,475	124.6%
7/1/1997	215,244,180	276,344,035	61,099,855	77.9%	31,583,852	193.5%
7/1/1996	181,309,285	256,025,106	74,715,821	70.8%	28,904,134	258.5%
7/1/1995	144,713,360	237,331,372	92,618,012	61.0%	27,286,874	339.4%
11/1/1993	132,616,127	194,818,698	62,202,571	68.1%	23,978,172	259.4%
7/1/1991	99,258,648	163,899,643	64,640,995	60.6%	23,147,890	279.3%
7/1/1989	80,339,694	137,724,284	57,384,590	58.3%	21,144,864	271.4%

Assumed Future Cost-of-Living Increases of 5% per Year						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
7/1/2004	329,683,295	589,848,727	260,165,432	55.9%	40,316,319	645.3%
7/1/2003 *	288,541,052	549,266,526	260,725,474	52.5%	40,622,159	641.8%
7/1/2002	292,510,573	500,252,436	207,741,863	58.5%	41,309,602	502.9%
7/1/2001 *	294,632,299	482,513,000	187,880,701	61.1%	41,017,120	458.1%
7/1/2000	275,380,829	445,210,365	169,829,536	61.9%	39,260,250	432.6%
7/1/1999	274,004,727	401,822,960	127,818,233	68.2%	37,020,940	345.3%
7/1/1998 *	251,105,049	364,271,932	113,166,883	68.9%	34,837,475	324.8%
7/1/1997	215,244,180	339,022,917	123,778,737	63.5%	31,583,852	391.9%
7/1/1996	181,309,285	313,971,110	132,661,825	57.7%	28,904,134	459.0%
7/1/1995	144,713,360	291,841,603	147,128,243	49.6%	27,286,874	539.2%
11/1/1993	132,616,127	240,414,482	107,798,355	55.2%	23,978,172	449.6%
7/1/1991	99,258,648	202,334,609	103,075,961	49.1%	23,147,890	445.3%
7/1/1989	80,339,694	169,842,689	89,502,995	47.3%	21,144,864	423.3%

- Note: (1) Actuarial accrued liability based on the entry age normal cost funding method.  
 (2) Actuarial value of assets is equal to cost value for all valuations prior to 7/1/1996, except for the 6/1/1982 valuation which used market value. Beginning 7/1/1996, market value has been used.  
 (3) Information used in preparing this exhibit has been extracted from past valuation reports or a projection of prior valuation results (denoted by \*). These past reports have been completed by Mercer Human Resource Consulting with the exception of the 6/1/1982 report which was completed by Professional Administrators Limited.

**TABLE 5**  
**Determination of Annual Pension Cost Under GASB Statement No. 27**

Fiscal Yr Ending (1)	Applicable Valuation Report Used	ARC (2)	Interest on NPO (3)	ARC Adjustment (4)	Amort. Factor (5)	Pension Cost (6)	Contri- bution (7)	Change in NPO (8)	NPO Balance (9)
6/30/1988	1/1/1986	3,701,119				3,701,119	3,166,390	534,729	534,729
6/30/1989	1/1/1986	3,701,119	42,778	44,842	11.924613	3,699,055	3,169,536	529,519	1,064,248
6/30/1990	7/1/1989	5,585,170	85,140	89,248	11.924613	5,581,062	3,311,814	2,269,248	3,333,496
6/30/1991	7/1/1989	5,585,170	266,680	279,548	11.924613	5,572,302	3,992,133	1,580,169	4,913,665
6/30/1992	7/1/1991	6,626,542	393,093	412,061	11.924613	6,607,574	4,256,357	2,351,217	7,264,882
6/30/1993	7/1/1991	6,626,542	581,191	609,234	11.924613	6,598,499	4,459,124	2,139,375	9,404,257
6/30/1994	11/1/1993	6,414,571	752,341	788,643	11.924613	6,378,269	4,429,516	1,948,753	11,353,010
6/30/1995	11/1/1993	6,414,571	908,241	952,065	11.924613	6,370,747	4,609,103	1,761,644	13,114,654
6/30/1996	11/1/1996	6,414,571	1,049,172	1,099,797	11.924613	6,363,946	4,749,667	1,614,279	14,728,933
6/30/1997	7/1/1996	7,621,659	1,178,315	1,235,171	11.924613	7,564,803	5,363,231	2,201,572	16,930,505
6/30/1998	7/1/1997	6,838,801	1,354,440	1,419,795	11.924613	6,773,446	5,907,023	866,423	17,796,928
6/30/1999	7/1/1997	6,970,212	1,423,754	1,492,453	11.924613	6,901,513	6,781,764	119,749	17,916,677
6/30/2000	7/1/1999	6,986,374	1,433,334	1,502,495	11.924613	6,917,213	7,980,585	(1,063,372)	16,853,305
6/30/2001	7/1/2000	8,652,793	1,348,264	1,413,321	11.924613	8,587,736	9,222,902	(635,166)	16,218,139
6/30/2002	7/1/2000	8,652,793	1,297,451	1,360,056	11.924613	8,590,188	9,604,845	(1,014,657)	15,203,482
6/30/2003	7/1/2002	10,680,500	1,216,279	1,274,966	11.924613	10,621,813	10,027,620	594,193	15,797,675
6/30/2004	7/1/2002	10,680,500	1,263,814	1,324,796	11.924613	10,619,518	10,244,350	375,168	16,172,843

ARC = Annual Required Contribution  
NPO = Net Pension Obligation

- (1) Fiscal years beginning prior to December 15, 1986 have not been included pursuant to paragraph 32 of GASB Statement No. 27.
- (2) ARC based on actuarial report as of most recent valuation date prior to end of fiscal year. Valuation report used for each fiscal year shown in column between (1) & (2). ARC amount shown is for minimum COLA valued, which is a 2% annual COLA.  
... Prior to 7/1/1998 - interest on unfunded actuarial accrued liability  
... 7/1/1998 & later - 40 year amortization
- (3) Interest on NPO is based on assumed valuation interest rate assumption.  
... 8.00% for all years
- (4) ARC Adjustment equals prior year NPO ending balance divided by amortization factor.
- (5) Amortization Factor is based on maximum allowable amortization period under GASB 27; 40 years for 10 after effective date of GASB 25; 30 years thereafter.
- (6) Pension Cost = (2) + (3) - (4)
- (7) Contribution based on fiscal year contribution information as provided by Urban County Government.
- (8) Change in NPO = (6) - (7)
- (9) NPO Balance = Prior year NPO balance + (8)

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